



UNITED STATES DEPARTMENT OF COMMERCE
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NOTICE OF ALLOWANCE AND ISSUE FEE DUE

QM41/0617

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APPLICATION NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
08/959,391	10/28/97	046	LAYNO, C	2737 06/17/99
First Named Applicant				

TITLE OF INVENTION GREENHUT, 35 USC 154(b) term ext. - 0 Days.
METHOD AND APPARATUS FOR CONTROLLING A PACEMAKER USING RESPIRATION

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEE DUE	DATE DUE
0 3532/E1	607-017.000	US9	UTILITY	NO	\$1210.00	09/17/99

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED.

THE ISSUE FEE MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED.

HOW TO RESPOND TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is changed, pay twice the amount of the FEE DUE shown above and notify the Patent and Trademark Office of the change in status, or
- B. If the status is the same, pay the FEE DUE shown above.

If the SMALL ENTITY is shown as NO:

- A. Pay FEE DUE shown above, or
- B. File verified statement of Small Entity Status before, or with, payment of 1/2 the FEE DUE shown above.

II. Part B-Issue Fee Transmittal should be completed and returned to the Patent and Trademark Office (PTO) with your ISSUE FEE. Even if the ISSUE FEE has already been paid by charge to deposit account, Part B Issue Fee Transmittal should be completed and returned. If you are charging the ISSUE FEE to your deposit account, section "4b" of Part B-Issue Fee Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give application number and batch number. Please direct all communications prior to issuance to Box ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

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Patent and Trademark Office**

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APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
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EXAMINER

ART UNIT	PAPER NUMBER
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DATE MAILED:

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

NOTICE OF ALLOWABILITY

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed); a Notice of Allowance and Issue Fee Due or other appropriate communication will be mailed in due course.

- ☒ This communication is responsive to PAPER NO. 6
- ☒ The allowed claim(s) is/are 1-10 AND 13-48
- ☐ The drawings filed on _____ are acceptable.
- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) _____
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

- ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

A SHORTENED STATUTORY PERIOD FOR REPLY to comply with the requirements noted below is set to EXPIRE **THREE MONTHS** FROM THE "DATE MAILED" of this Office action. Failure to timely comply will result in ABANDONMENT of this application. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

- ☐ Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION, PTO-152, which discloses that the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.
- ☒ Applicant MUST submit NEW FORMAL DRAWINGS
- ☐ because the originally filed drawings were declared by applicant to be informal.
- ☒ including changes required by the Notice of Draftperson's Patent Drawing Review, PTO-948, attached hereto or to Paper No. 3.
- ☐ including changes required by the proposed drawing correction filed on _____, which has been approved by the examiner.
- ☐ including changes required by the attached Examiner's Amendment/Comment.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the reverse side of the drawings. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftperson.

- ☐ Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Any reply to this notice should include, in the upper right hand corner, the APPLICATION NUMBER (SERIES CODE/SERIAL NUMBER). If applicant has received a Notice of Allowance and Issue Fee Due, the ISSUE BATCH NUMBER and DATE of the NOTICE OF ALLOWANCE should also be included.

Attachment(s)

- ☒ Notice of References Cited, PTO-892
- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s) _____
- ☐ Notice of Draftperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Interview Summary, PTO-413
- ☐ Examiner's Amendment/Comment
- ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- ☒ Examiner's Statement of Reasons for Allowance

W. E. Kamm
William E. Kamm
Primary Examiner

16 June 89

Art Unit: 3737

DETAILED ACTION

1. Acknowledgment is made of applicant's amendment which was received by the Office on June 1, 1999. This document has been made of record in the file as Paper No.6.
2. Claims 11 and 12 are canceled. Claims 1-10 and 13-48 are active.

Drawings

3. This application has been filed with informal drawings which are acceptable for examination purposes only.

Specification

4. In view of the applicant's modifications to the specification, the Examiner is withdrawing the objections which were made against the specification in the last Office action.

Claim Rejections - 35 USC § 112

5. In view of applicant's modifications to the claims, the Examiner is withdrawing the 35 U.S.C 112 rejections which were made against claims 25, 35, and 37 in the last Office action.

Art Unit: 3737

Claim Rejections - 35 USC § 102

6. Upon further reconsideration of applicant's arguments and amendments to the claims, the Examiner is withdrawing the 35 U.S.C 102(b) rejection of Amundson '342 which was made against claims 10, 14, 38, 39, and 42-45 in the last Office action.

7. Claims 1-10 and 13-48 are now deemed to be allowable over the prior art of record for the reasons given below in the Examiner's statement of reasons for allowance.

Reasons for Allowance

8. The following is an examiner's statement of reasons for allowance:

Independent claims 1, 10 and 38, as amended, now recite an implantable pacemaker and a method for controlling the pacing rate, respectively, including the inventive feature of a rate adjusting circuit which modifies a metabolic parameter (claim 1) or pacing rate (claims 10 and 38) "cyclically" following the respiration rate signal. The prior art references of Amundson '342, Reuter et al '524, and Bardy et al '425 all describe implantable pacemakers which utilize the outputs from respiration rate sensors to modify their pacing rates. Unlike applicant's device, however, none of these patents specifically shows or teaches the changing of a "metabolic parameter" or pacing rate "cyclically" (i.e. in every phase) based strictly upon the respiration rate. Rather, the pacing rate may be a non-cyclical function of both activity detection and minute ventilation (Reuter et al and Amundson) or respiration rate and blood flow demand (Bardy et al).

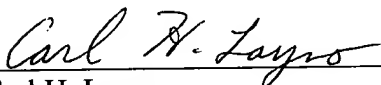
Art Unit: 3737

Lacking any other specific teachings in the art, the Examiner deems independent claims 1, 10, 38, and their depending claims to be allowable over the prior art of record.


All remaining claims having been allowed, **formal drawings are now required.**

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carl H. Layno whose telephone number is (703) 308-3694.



Carl H. Layno
Examiner, Group AU 3737



William E. Kamm
Primary Examiner, Group AU 3737

CHL
June 15, 1999

William E. Kamm
Primary Examiner

